Memo

Work Order ID 96526

110

Quality Control

QC

96526

Page 1

Jm13-1-30

January-29-13 11:59:30 AM D3849-1 Accept *N900040100* Setup Start Item ID: Revision ID: Stop Item Name: Plate *10* **Start Oty: 10.00** Start Date: 1/29/13 Cust Item ID: Required Date: 2/08/13 Req'd Oty: 10.00 *10* **Customer:** Reference: Start Run Date: Tooling: Approvals: Process Plan: Date: Stop Date:___ SPC (Y/N): Date: QC: Tool ID Reject Reject Insp. Sequence ID/ Tool # Plan Operation Set Up/ Accept Stamp Qty Qty Number Description Code Work Center ID **Run Hours Revision Nbr** Draw Nbr D3849 D 100 0.00 *100* Im 13-1-30 0.00 Waterjet Memo FLOW CNC Waterjet 1-Cut as per Dwg D3849 Dwg Rev: 304.050 Prog Rev: 2-Deburr if necessary QC2- Inspect parts off machine FAI/FAIB 0.00 110

0.00

NCR: Y	es /	/ No					WORK ORDER NON-C	ON	IFORN	/IANCE / UPI	DATE			
								_				QA Closed:	Date:	
Work Orde	r: _						DISPOSITION				AGAINST DE	PARTMENT/	PROCESS Water Jet	Engineering
Part N	lo						Rework Scrap Use-as-is		ľ	Skid-tube Machining noforming	Crosstube Small Fab Finishing	1	d. Eng. Coor.	Quality Other
NCR N	lo						Work Order Update							
Root					Desc	rip	tion of work order update		nitial	Act	tion	Sign &		
Cause_		Date	Step	Qty		0	r Non-conformance	Ch	ief Eng	Desci	ription	Date	Verification	QC Inspector
oc/Data quip/Tooling perator Material etup other rocess upplier raining														
паррточес		1	· · · · ·	1	_		F.	AUL	T CATE	GORY		<u> </u>		
Landir	ng Ge	ear					General							
		Bending Centre Not Concentric to O/S Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion			Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread Offset Out of Calibration		Unclear	Ovalized Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Positioned Wrong Power Loss/Surge		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other		
	Turning Sequence				Finish		Out of S	Sequence						

Outside Dimensions

DQA:

Date:

Wave/Twist in Tube

Folio

Work Orde January-29-13		526		*96	526*						Page 2	
Revision ID:	D3849-1 Plate			Accept	*N900	0040	100)* s	Setup Star	173	S1* S2*	
	1/29/13 2/08/13	Start Qty: 10.00 Req'd Qty: 10.00	*1(*1(Cust Iten Custome					, i di		
Approvals:		n:	Date:	Tooling: SPC (Y/N):		Date:		F	Run Star Stop		R1* R2*	
Sequence ID/ Work Center II 120 *170* QC Quality Control)	Operation Description QC8- Inspect parts - secon	nd check	Set Up/ Run Hours 0.00 OA		Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	_
130 *130* Brake NC Brake NC		Memo Form as per o	dwg using DT8179	0.00 0.00 & DT8155				lo			S/ (3.6-	21 Zǎ
210 *210* QC		QC5- Inspect part comple	eteness to step on W) ~(>			IO				

Quality Control

NCR: Ye	NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE												
	•								C	(A Closed:	Date		
Work Order	r:				DISPOSITION		AGAINST DEPARTMENT/PROCESS						
Part No	0				Rework Scrap Use-as-is		Skid-tube Crosstube Machining Small Fab Thermoforming Finishing		Prod. Eng. Coor. Rec/Store/Packaging			Engineering Quality Other	
NCR No.				Work Order Update] '''		Large Fab Composite		Supplier				
Root				Descri	ption of work order update	Initia	al	Action		Sign &			
Cause	Date	Step	Qty	(or Non-conformance	Chief E	ng	Description	\perp	Date	Verification	QC Inspector	
Doc/Data						ļ							
quip/Tooling						1			- 1		•		
Operator						1				:			
Material													
Setup	_												
Other							l						
Process]											
Supplier													
Training													
Unapproved													
				<u></u>	F	AULT CA	ATEC	GORY	_				
Landin	g Gear				General			ŗ			r		
L	Bending				Bend	Gra	ain			Ovalized	L	Pressure/Forced	
	Centre No	ot Conce	ntric to C	o/s	BOM/Route	Har	dwa	re	(Over/Under	tolerance	Temperature/Cure	
	Cracks				Broken/Damaged	Insp	pecti	on Incomplete		Part Incorre	ct	Weld	
	Crushed/	Crimped	-		Burrs	Inst	tructi	ions Incomplete/Unclear		Part Lost/Mi	issing	Wrong Stock Pulled	
	Cuffs				Contamination	Ma	inte	nance		Part Moved			
	Heat Trea	at			Countersink	Mis	slabe	led		Positioned V	Vrong		
ľ	Inspectio	n Strip in	Tube		Cut Too Short	Mis	sread			Power Loss/	Surge	Other	
	Ripples in	Bend			Drill Holes	Off	set						
	Torque V	/aves in I	Extrusion	, [Drawing	Out	t of C	Calibration	_				
	Turning S	equence			Finish	Out	t of S	Sequence	_				
<u> </u>	Wave/Twist in Tube			Folio	Out	tside	Dimensions						

DQA: Date:

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Work	Orde	r ID	96526
WUIK	Milae	ענו	70340

QC

Quality Control

96526

Page 3

January-29-13 11:59:30 AM D3849-1 Accept Item ID: *N900040100* Setup Start **Revision ID:** Stop Item Name: Plate *10* **Start Qty: 10.00 Start Date:** 1/29/13 **Cust Item ID:** Required Date: 2/08/13 Req'd Qty: 10.00 *10* **Customer:** Reference: Run Start Date: Process Plan: Tooling: Approvals: Date: Stop QC: Date: _____ SPC (Y/N): Date: Sequence ID/ Operation Tool ID Reject Tool # Plan Set Up/ Accept Reject Insp. **Work Center ID** Description Qty Number Stamp **Run Hours** Code **Qty** Identify as per dwg & Stock Location: WAO() 220 0.00 ×10 13-03-13 MAL *220* 0.00 Packaging Memo Packaging 230 QC21- Final Inspection - Work Order Release 0.00

0.00

Memo

13/3/13 9

									DQA:	Date):
NCR: Ye	es / No				WORK ORDER NON-C	ONFOR	MANCE / UPI	DATE	QA Closed:	Date	2:
Mork Order					DISPOSITION			PROCESS			
Work Order Part No NCR No	0				Rework Scrap Use-as-is Work Order Update	Ther	Skid-tube Machining moforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. e/Packaging Supplier	Engineering Quality Other
Root				Descri	ption of work order update	Initial	Act	ion	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling										-	
Operator	_	i			•						
Material											
Setup	_										
Other	_										
Process											
Supplier	-		:			:					
Training											
Unapproved		L		1		AULT CAT	 FGORY		<u> </u>	1	
Landin	g Gear	·		. , <u></u>	General						
Γ	Bending				Bend	Grain			Ovalized	Γ	Pressure/Forced
Ī	Centre No	ot Concei	ntric to	o/s	BOM/Route	Hardw	<i>r</i> are		Over/Under	tolerance	Temperature/Cure
Ī	Cracks				Broken/Damaged	Inspec	tion Incomplete		Part Incorre	ct [Weld
ſ	Crushed/	Crimped.			Burrs	Instru	ctions Incomplete/l	Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Cuffs				Contamination	Main	tenance		Part Moved		
	Heat Trea	it			Countersink	Mislak	peled		Positioned \		
	Inspection	n Strip in	Tube		Cut Too Short	Misre	ad		Power Loss,	'Surge	Other
	Ripples in	Bend			Drill Holes	Offset					
	Torque W	/aves in 8	Extrusio	n _	Drawing	\vdash	f Calibration				
	Turning S	equence	<u> </u>		Finish	Out of	f Sequence				
Wave/Twist in Tube			Folio	Outsid	de Dimensions						

Picklist Print

January-29-13 11:59:30 AM

Work Order ID:

96526

Parent Item:

D3849-1

Parent Item Name:

Plate

Start Date: 1/29/13

Required Date: 2/08/13

Page 1

Start Qty: 10.00

Required Qty: 10.00

Comments:

IPP REV:A NEW ISSUE 12-08-23 JLM VERIFIED BY:DD

IPP Rev:B 12.09.11 AS PER

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S18GA 304/316 .050 Sheet		Purchased	No			100	sf	344.5299	3.585	37.736842 38			Jm13-1-
				Location		Loc Oty	Loc	c Code					
				MAT019		21							
				117	188	5							
				117	766	5							
				120	604	5							
				122	325	3							
				123	155	3							
				MAT020		323.529894							
				120	243	2							
				121	626	1.529894							
				124	1029	320			124	029			



NCR: Y	CR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE										
	,								QA Closed:	Date	
Work Orde	r:				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
					Rework] [Skid-tube	Crosstube		Water Jet	Engineering
Part N	lo.				Scrap	1	Machining Small Fab		Prod. Eng. Coor.		Quality
					Use-as-is	The	ermoforming	Finishing	Rec/Stor	re/Packaging Supplier	Other
NCR N	lo				Work Order Update]	Large Fab	Composite		」 □	
	- 1	<u> </u>	1 1	D		Initia		Action	Sign &		
Root		6			ption of work order update	Chief E	1	scription	Date	Verification	QC Inspector
Cause	Date	Step	Qty		or Non-conformance	Ciller	ig Des	scription	Date	Vermeation	Qe mspector
Doc/Data	_										
Equip/Tooling											
Operator Material	-										
<u>}</u>		1									
Setup Other	_										
Process	-			:							
Supplier	\dashv										
Training											
Unapproved											
1	<u></u>				F	AULT CA	TEGORY				
Landir	ng Gear				General				_	_	
}	Bending				Bend ·	Grai	n		Ovalized		Pressure/Forced
İ	Centre N	ot Conce	ntric to (o/s	BOM/Route	Hard	lware		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged	Insp	ection Incomplete		Part Incorre	ct	Weld
	Crushed/	Crimped.			Burrs	Instr	uctions Incomplete	e/Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Cuffs				Contamination	Mai	ntenance		Part Moved		
	Heat Trea	at			Countersink	Misl	abeled		Positioned \	Wrong	
ĺ	Inspectio	n Strip in	Tube		Cut Too Short	Misr	ead		Power Loss,	/Surge	Other
	Ripples ir	n Bend			Drill Holes	Offs	et				
	Torque V	Vaves in I	Extrusio	n [Drawing	Out	of Calibration				
	Turning S	Sequence			Finish	Out	of Sequence				
	Wave/Twist in Tube			Folio	Out	side Dimensions					

DQA: _____ Date: ____

DART AEROSPACE LTD	Work Order:	4652k
Description: Wearplate	Part Number:	D3849-1
Inspection Dwg: D3849 Rev: D		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.375	+0.006/-0.001	0.337			γ	JAMOI
0.125	+/-0.010	0.192,			ν	
0.88	+/-0.030	0.878	-		ν	
2.433	+/-0.010	2.435			ν	
6.642	+/-0.010	6.643"	-		ν	
2.45	+/-0.030	2.45"	-		ν	
18.000	+/-0.010	16.000	-		Τ	Ikmolo
36.000	+/-0.010	36.000	-		1	
51.313	+/-0.010	51.313	_		T	
7.00	+/-0.030	7.004			V	
41.50	+/-0.030	41.50	~		Т	
7.72	+/-0.030	7.712	-		V	
54.26	+/-0.030	54.26	-		Τ	
0.050	+/-0.010	0.047	~		V	
			<u> </u>			

Measured by: Tm Audited by: Preliminary Approval:	 ٦
Measured by: M	
Date: 13-1-30 Date: 13-1-30 Date:	

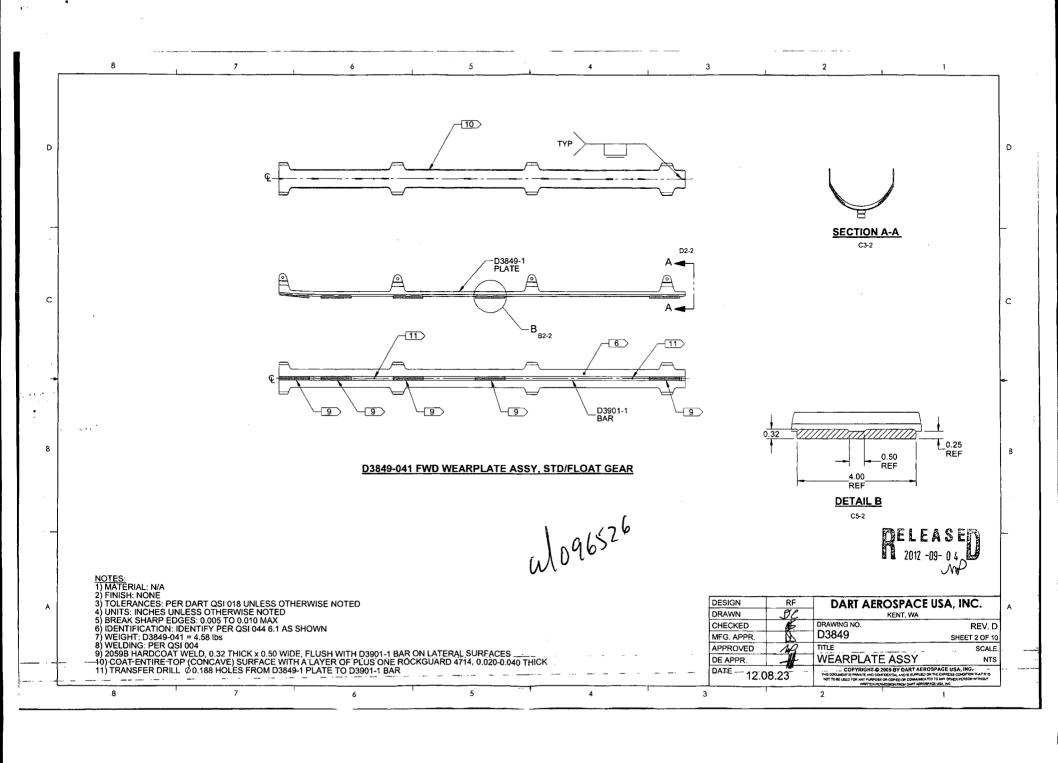
Rev	Date	Change		Revised by Approved	d
A	09.10.01	New Issue	P/O D3849-041	KJ N	_
В	12.10.26	Dimensions updat	ed per Dwg Rev D	KJ CK I DI	

NICE		,	
NCR:	Yes	1	No

Date:

NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE													
	,									QA Closed:	Date	::	
Work Ordei	r:				DISPOSITION	AGAINST DEPARTMENT/PROCESS							
Work Order	· 				Rework		Skid-tube	Crosstube]	Water Jet	Engineering		
Part No	0.				Scrap	7		Machining	Small Fab	Pro	d. Eng. Coor.	Quality	
					Use-as-is		Thern	noforming	Finishing	Rec/Stor	e/Packaging	Other	
NCR No.					Work Order Update		Large Fab Composite			j	Supplier	_	
Root	ot Descri				ption of work order update		Initial Action			Sign &			
Cause	Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector	
Doc/Data					•								
Equip/Tooling													
Operator						1				į			
Material		1											
Setup					·	1							
Other													
Process	_												
Supplier				•									
Training	_												
Unapproved								<u> </u>					
					 	FAUL	T CATE	GORY					
Landin	g Gear				General		7		_	¬	Г	-	
	Bending				Bend	<u> </u>	Grain			Ovalized	-	Pressure/Forced	
	Centre No	ot Conce	ntric to	o/s	BOM/Route	ļ	Hardware			Over/Under	⊢	Temperature/Cure	
	Cracks				Broken/Damaged	L	- 1 '	ion Incomplete		Part Incorre	<u>+</u>	Weld	
	Crushed/	Crimped	•		Burrs	<u> </u>	4	tions Incomplete	/Unclear	Part Lost/M	issing	Wrong Stock Pulled	
	Cuffs				Contamination		Mainte	enance		Part Moved			
	Heat Trea	at			Countersink		Mislabe	eled		Positioned \			
.[Inspectio	n Strip in	Tube		Cut Too Short		Misrea	d		Power Loss	'Surge	Other	
	Ripples in	Bend			Drill Holes		Offset						
	Torque W	Vaves in E	Extrusio	n [Drawing		Out of	Calibration					
	Turning S	equence			Finish		Out of	Sequence					
	Wave/Tw	ist in Tul	эe		Folio		Outside	e Dimensions					

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												DQA:	Dat	te:	
NCR:	Yes	/ No				WORK ORDER NON-C	100	VFORM	AANCE / UP	DATE		0 4 611			
						Υ			 			QA Closed:	Dat	te:	
Work Order:						DISPOSITION				AGAINST DI	ΕP	ARTMENT/	PROCESS		
WOIK OIG	C1.					Rework	Skid-tube Crosstube			Water Jet				Engineering	
Part !	No.					Scrap			Machining	Small Fab	1	Prod. Eng. Coor.			Quality
		·		······································		Use-as-is		1	noforming	Finishing	٦		e/Packaging		Other
NCR	No.					Work Order Update]		Large Fab	Composite]		Supplier		
											_				
Root					1	ption of work order update	1	Initial		tion		Sign &			
Cause		Date	Step	Qty	(or Non-conformance	Ch	nief Eng	Desc	ription	4	Date	Verification	n	QC Inspector
Doc/Data															
Equip/Tooling	Ш							!							·
Operator	Ш						Ì								
Material	Ш										١				
Setup			}								١				
Other	<u></u>														
Process				· .							-				
Supplier									•		1				
Training	<u> </u>										١				
Unapproved	<u> </u>		<u>.</u>	<u> </u>			<u> </u>				\perp				
							AUI	LT CATE	GORY						
Land	ing (7			_	General	_	۱		_	7	O 1: 1		_]
	Bending					Bend	-	Grain		 - -	-	Ovalized		<u> </u>	Pressure/Forced
	Centre Not Concentric to O/S					BOM/Route	\vdash	Hardwa		-	_	Over/Under		\vdash	Temperature/Cure
	\vdash	Cracks			<u> </u>	Broken/Damaged	\vdash	⊣ `	on Incomplete	// /	-	Part Incorred		\vdash	Weld
	\vdash	Crushed/	Crimped		<u> </u>	Burrs	-	Instructions Incomplete/Unclear				Part Lost/Mi	ssing		Wrong Stock Pulled
	<u> </u>	Cuffs			<u> </u>	Contamination	-	Mainte			-	Part Moved	· /		
	<u> </u>	Heat Trea			<u> </u>	Countersink	-	Mislabe		<u> </u>	-1	Positioned V	_	_	1 _{0.1}
1	1	Inspectio	n Strip in	Tube	1	Cut Too Short	1	Misread	t t	1	- 1	Power Loss/	Surge	1	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

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Ripples in Bend

Turning Sequence

Wave/Twist in Tube

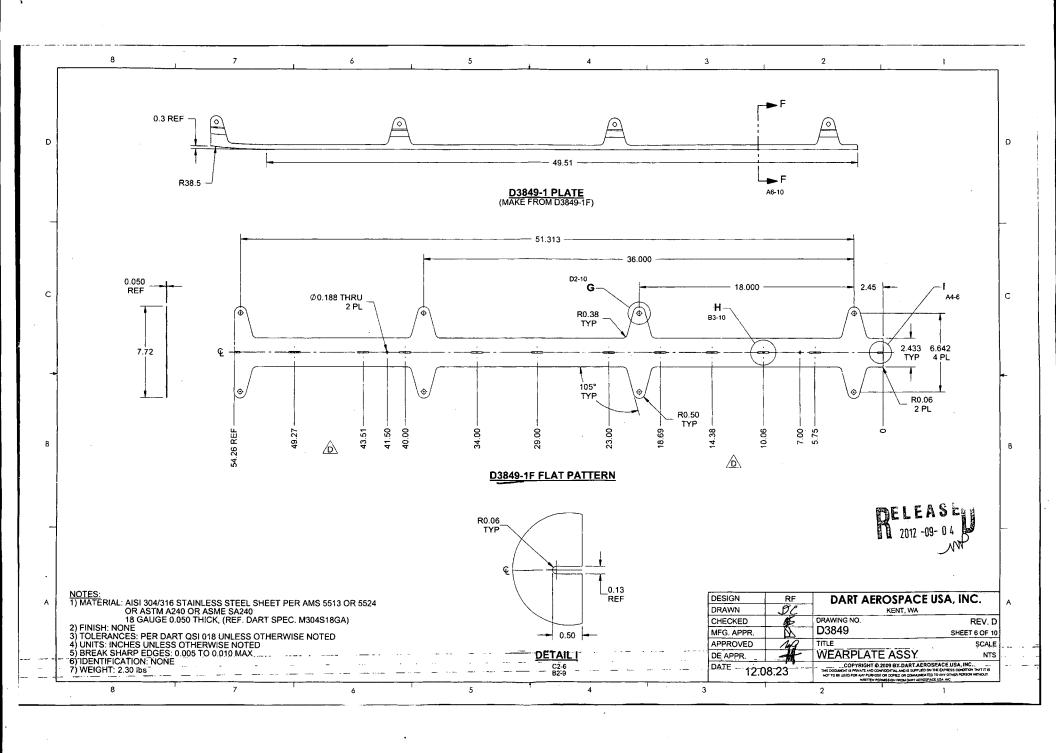
Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

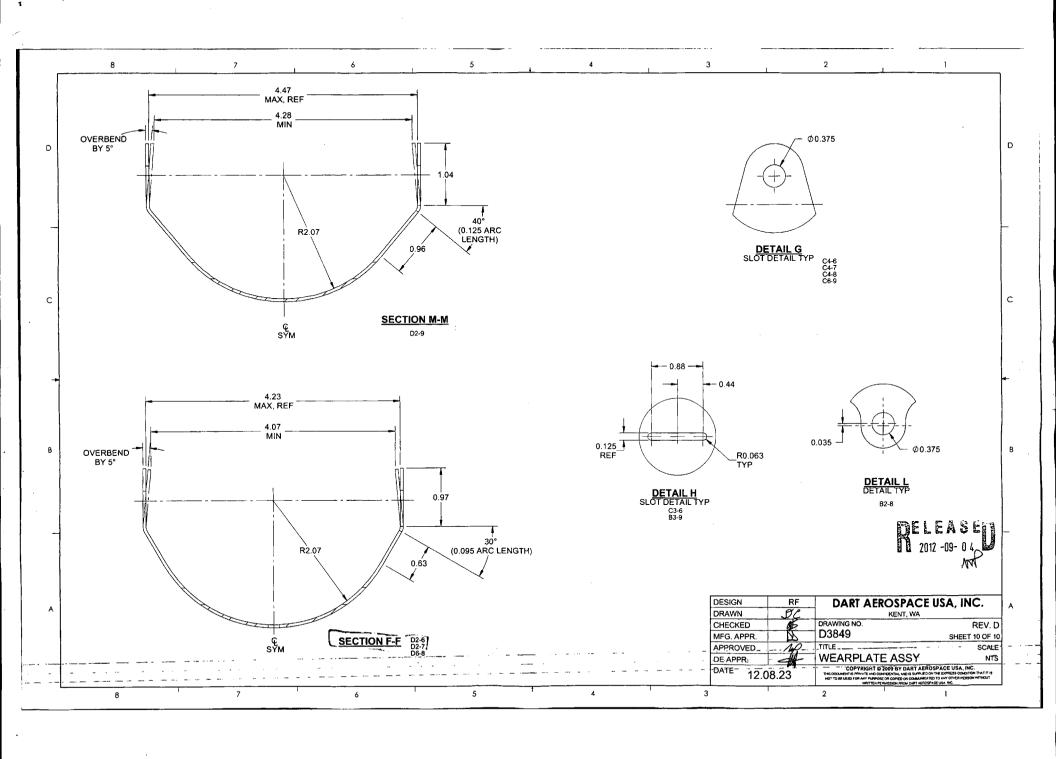


NCR:	Yes	/	No

DQA: _____ Date: ____

NCR: Y	NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE QA Closed: Date:													
		<u>.</u>			DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Work Orde	r:										_	,		
Part No.					Rework Scrap		Skid-tube Crosstube Machining Small Fab				Water Jet d. Eng. Coor.	Engineering Quality		
NCR No.					Use-as-is Work Order Update] '		oforming Finishing Large Fab Composite						
Root				Descr	ption of work order update	Init	tial	Action	Si	gn &				
Cause	Date	Step	Qty		or Non-conformance	Chief	ief Eng Description		_	Date	Verification	QC Inspector		
oc/Data														
quip/Tooling							İ							
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∕laterial	_	ļ									[
etup						ļ								
Other	_	1												
Process	_													
Supplier	_													
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						FAULT (CATEG	GORY				-		
Landin	g Gear			_	General						Г	¬-		
]	Bending				Bend		rain			Ovalized		Pressure/Forced		
	Centre N	ot Conce	ntric to (o/s	BOM/Route	 	ardwar			Over/Under tolerance		Temperature/Cure		
	Cracks				Broken/Damaged		•	on Incomplete	\vdash	Part Incorrect		Weld		
	Crushed/	Crimped		_	Burrs		nstructions Incomplete/Unclear			t Lost/M		Wrong Stock Pulled		
	Cuffs			\vdash	Contamination	⊢ —		nance		t Moved		•		
	Heat Trea			<u> </u>	Countersink	\vdash	1islabel			itioned \		¬		
1	Inspectio		Tube	L	Cut Too Short	—	lisread	I	Pov	ver Loss,	/Surge	Other		
	Ripples ir				Drill Holes	—	ffset							
Į	Torque V			n	Drawing	\vdash		Calibration						
1	Turning S				Finish	\vdash		Sequence						
	Wave/Tw	vist in Tul	be	i	Folio		utside	Dimensions						

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										DQA:	Date:			
NCR: Yes	/ No				WORK ORDER NON-C	ONF	ORIV	IANCE / UP		QA Closed:	Date:			
Work Order:					DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No					Rework Scrap Use-as-is Work Order Update	Ther		Skid-tube Crosstube Machining Small Fab Finishing Composite		Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier		Engineering Quality Other		
Root				Descri	ption of work order update	Initi	1		tion	Sign &				
Cause	Date	Step	Qty		or Non-conformance	Chief	Eng	Desc	ription	Date	Verification	QC Inspector		
Doc/Data Equip/Tooling Operator Material Setup					· .							•		

FAULT CATEGORY Landing Gear General Pressure/Forced Bend Grain Bending Ovalized Over/Under tolerance Temperature/Cure BOM/Route Centre Not Concentric to O/S Hardware Weld Broken/Damaged Inspection Incomplete Part Incorrect Cracks Part Lost/Missing Wrong Stock Pulled Instructions Incomplete/Unclear Crushed/Crimped. Burrs Part Moved Cuffs Contamination Maintenance Mislabeled Positioned Wrong Countersink Heat Treat Cut Too Short Power Loss/Surge Other Inspection Strip in Tube Misread Offset Ripples in Bend Drill Holes Out of Calibration **Torque Waves in Extrusion** Drawing Out of Sequence Finish Turning Sequence Folio Wave/Twist in Tube Outside Dimensions

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Other Process Supplier Training Unapproved